

# **GAME THEORY**

## **DESCRIPTION OF CONTENTS**

**Course 2016-17**

### **1-. STATIC GAMES: NASH EQUILIBRIUM.**

1.1 Dominance and Best response.

1.2 Nash equilibrium.

1.3 Auctions. Team projects. Electoral competition: the median voter theorem. Stag Hunt games.

1.4 Mixed–strategy equilibrium.

### **2. DYNAMIC GAMES WITH PERFECT INFORMATION: SUBGAME PERFECT EQUILIBRIUM**

2.1 The extensive form of a game and backward induction.

2.2 Stackelberg and Commitment games. Entry Deterrence. Hold up situations. Trust and punishment.

### **3. BARGAINING**

3.1 Bilateral negotiation: Conflict and Cooperation.

3.2 Alternating offers negotiation.

3.3 The Nash bargaining cooperative solution of a negotiation.

### **4. REPEATED GAMES AND REPUTATION.**

4.1 Finitely repeated games.

4.2 Infinitely repeated games: Folk theorems.

4.3 Reputation.

### **5. IMPERFECT OR INCOMPLETE INFORMATION IN GAMES.**

5.1 Static games with asymmetric information: Bayesian Nash equilibrium. Auctions with private information.

5.2 Dynamic games with asymmetric information: Perfect Bayesian equilibrium. Limit pricing. Reputation in repeated games with incomplete information.

## **6. THE PRINCIPAL AGENT RELATIONSHIP. MORAL HAZARD.**

6.1 The Principal-Agent model. Symmetric information. The optimal risk-sharing.

6.2. The Principal-Agent model. Asymmetric information: incentives for a risk-averse agent.

6.3 Extensions: risk neutrality, fines and supervision.

6.4 Several agents. Team production.

6.5 Several principals. Common Agency.

## **7. THE MORAL HAZARD PROBLEM IN SOME COMPETITIVE MARKETS**

7.1 Labour markets

7.2 Insurance markets

7.3 Credit markets.

## **8. MARKETS WITH PRIVATE INFORMATION. ADVERSE SELECTION AND SCREENING.**

7.1 Adverse selection in markets with private information of quality.

7.2 The Principal-Agent model with private information: discrimination and informational rents.

7.3 Screening in the markets

7.3 Private information and competitive markets: unemployment and rationing.

## **9. SIGNALLING IN MARKETS**

9.1 Education as a signal in the labour markets.

9.2 Quality signaling in markets.

9.3 Private information and market entry deterrence.

## **Bibliography**

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